



Cost-Benefit Subgroup Briefing to the OCG

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Outline



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Team Assumptions



- We understand that the OpEval of applications will be executed simultaneously, not individually.
- We understand that we may be limited to the on/off operation question which should be considered by the test ops subgroup before a final answer is given.
- We will need both types of baseline data. Two baselines are relevant for collecting baseline metrics for:
 - Today's system – pre-OpEval; and
 - OpEval procedures when conditions are not normal. OpEval-1 had some sterile operations; we need more variety. Interpretation of the data will be determined by CDTI use when compared to baseline.

Data Sources for Benefits Estimating



- Five sources for data from the Op Eval:
 - 1. ADS-B data (location and time will be accurate)
 - 2. Radar data
 - 3. Data collectors (observers on board)
 - 4. Surveys / questionnaires
 - 5. Post flight interviews
- For baseline data (pre-Op/Eval):
 - 1. SDF studies
 - 2. Reports and ongoing studies
 - 3. CODAS data
 - 4. NTSB data

Additional Data Requirements



- Demographic Data Requirements
 - 1. Environmental conditions (WX, VIS, CEIL, etc.)
 - 2. Crew demographics
 - 3. Aircraft data

Other Sources



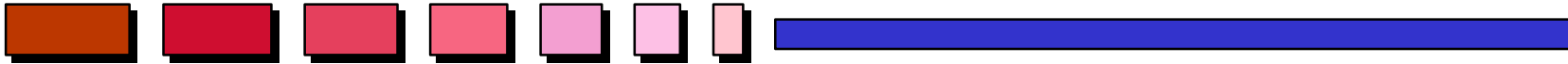
- Other opportunities for benefit data outside of the Op/Eval:
 - 1. Simulation
 - * I-lab
 - * Queuing models
 - * DPAT (Detailed Policy Assessment Tool)
 - 2. Integration testing for the Op/Eval (Identified by Ray Yuan)
 - 3. UPS, FedEx and ABX internal data
 - 4. Other ADS-B activities in Europe

Metrics Request



- Have submitted update to the TEMP to Ray Yuan
 - Based on Benefit Metrics
- There is significant metric overlap between applications.
 - requesting separate data for each application is still required.
 - We will continue to use the summary method for tracking and discussion purposes.

Summary of OCG-2 Metrics



User Cost Savings		Source: SF21 Benefit Metrics
Benefit	Metric	Application
Increased airport capacity	Arrival rate	3.2.1; 6.1.1; 6.2
	Departure rate	3.4; 6.1.1; 6.2
	Separation distance during final approaches	3.2.1; 6.1.1
	Pilot confidence level in relying on equipment for maintaining final approach spacing during low visibility terminal operations	3.2.1; 3.4; 6.1.1; 6.2
Reduced arrival delays	Flight time in terminal area during final approach	3.2.1
Increased predictability of arrival times	Flight time from final approach fix to touchdown	3.2.1
Reduced departure delays	Flight time in terminal area during takeoffs and departures	3.4
Increased predictability of departure times	Flight time in terminal area during takeoffs and departures	3.4
Reduced taxi-in times	Taxi-in time	6.1.1; 6.2
Increased predictability of taxi-in times	Taxi-in time	6.1.1; 6.2
Reduced taxi-out times	Taxi-out time	6.2
Increased predictability of taxi-out times	Taxi-out time	6.2

FAA Cost Savings -- (Expected to yield smaller benefits)		
Benefit	Metric	Application
Reduced controller workload	Number of final approaches handled per surface controller	3.2.1
	Voice channel occupancy time during final approach	3.2.1
	Number of controller transmissions during final approach	3.2.1
Reduced controller workload	Number of takeoffs and departures handled per surface controller	3.4
	Voice channel occupancy time during takeoffs and departures	3.4
	Number of controller transmissions during takeoffs and departures	3.4
Reduced surface controller workload	Number of aircraft and vehicles handled per surface controller	6.1.1; 6.2
	Voice channel occupancy time for surface controller	6.1.1; 6.2
	Number of surface controller transmissions per aircraft	6.1.1; 6.2

Challenges



- Identifying and measuring both types of baselines.
- Limited number of data points from the OpEval
 - Approximately 20-24 aircraft will be available for the test flights. These will be mixed equipage (3 different CDTI's) and mixed size (single engine, medium, and large).
- Approach spacing: May not be able to fly test courses without ADS-B/CDTI.
- Surface applications: The team supports the gathering of taxi baseline data which can establish measurements for surface applications test/ op deltas.

Next Steps



- Jim Walton is developing a baseline for Louisville
- Continue to review and refine metrics requirements in coordination with the human factors subgroup
- Identify metrics contacts from each application subgroup
- Identify other data sources
- Get involved with the questionnaires and surveys development.
- Gain understanding of the activities of observers in flight and at the surface to ensure useful metrics are collected
- Begin thinking on how we will apply data received
- Identify Source for radar data for baseline measurement